Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JIN-SEUNG SOHN and DAE-SUNG RO

Appeal No. 2000-1765
Application No. 08/947,895

ON BRIEF

Before THOMAS, HAIRSTON, and FLEMING, ***Administrative Patent Judges***.

FLEMING, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 and 24. Claims 2 through 22 and 25 through 153 have been withdrawn from consideration as being directed to non-elected species and subspecies.

The invention relates to a disk player having a self-compensating dynamic balancer for restricting internal vibrations generated due to an eccentric center of gravity of a disk, and a turntable, a clamper, and a spindle motor incorporating the self-

compensating dynamic balancer. See Appellants' specification, page 1, lines 3-13.

Appellants disclose that prior art does not take into consideration the dampening of internal vibrations generated by the rotation of the spindle motor due to an eccentric center of gravity of the disk. See Appellants' specification, page 2, lines 24-28. Appellants disclose that such an eccentric center of gravity of the disk is caused by a discrepancy between the rotational center of the disk and the center of gravity of the disk due to errors in the manufacturing process of the disk. See Appellants' specification, page 2, lines 27-28. Appellants disclose that this causes the rotational shaft of the spindle motor to exhibit an orbital revolution, which has serious effects in the case of a high-speed disc player. See Appellants' specification, page 3, lines 3-7.

Independent claim 1 and dependent claim 24 present in the application are reproduced as follows:

1. A disk player comprising:

a deck base;

a deck plate elastically coupled to said deck base;

at least one buffering member interposed between said deck base and said deck plate for protecting said deck plate from external impacts;

a spindle motor having a rotational shaft and being mounted to said deck plate for providing a rotational force to a disk;

a turntable mounted to said rotational shaft of said spindle motor for accommodating the disk;

a clamper for holding the disk in place on said turntable;

an optical pickup installed at said deck plate to be capable of moving across the disk; and

a self-compensating dynamic balancer mounted to at least one among members which are rotated by the rotational force provided by said spindle motor, the center of gravity of said self-compensating dynamic balancer being located opposite to that of said disk with respect to said rotational shaft of said spindle motor by a centrifugal force generated during rotation of the disk, thereby to compensate for vibrations due to an eccentric center of gravity of said disk.

24. A disk player as claimed in claim 1, wherein said self-compensating dynamic balancer is formed to incorporate said turntable.

References

The reference relied on by the Examiner is as follows:

Araki et al. (Araki) (Japanese Patent)	62-24052	Feb. 2, 1987

Rejections at Issue

Claims 1 and 24 stand rejected under 35 U.S.C. § 103 as being unpatentable over Appellants' admitted prior art of Figure 1 and Araki.

OPINION

We will not sustain the rejection of claims 1 and 24 under 35 U.S.C. § 103.

The Examiner has failed to set forth a prima facie case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan contained in such teachings or suggestions. See ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983).

Appellants argue that Araki relates to an automatic balancing device for a rotary body in an imbalanced state, such as a rotary injection type metal powder manufacturing apparatus. See Appeal Brief, page 9, lines 6-8. Appellants argue that Araki does not relate to a disk player and there is no recognition of compensating for vibrations due to an eccentric center of gravity of a disk which is clamped in place on a turntable of a disk

player. See Appeal Brief, page 11, lines 12-15. Appellants argue that Araki does not relate in particular to a self-compensating dynamic balancer mounted to at least one among members which are rotated by the rotational force provided by said spindle motor, the center of gravity of said self-compensating dynamic balancer being located opposite to that of said disk with respect to said rotational shaft of said spindle motor by a centrifugal force generated during rotation of the disk, thereby to compensate for vibrations due to an eccentric center of gravity of said disk, as recited in Appellants' claim 1. See Appeal Brief, page 10, lines 9-16.

The Examiner argues that Araki teaches the use of a self-compensating dynamic balancer for correcting the balance of a rotary body when the rotary body exceeds a critical speed. See Answer, page 4, lines 3-5. The Examiner argues that it would have been obvious to one of ordinary skill in the art at the time of Appellants' invention to modify the disc player of Appellants' admitted prior art with a self-compensating dynamic balancer as taught by Araki so that the turntable and disc are balanced when rotated at high speeds. See Answer page 4, lines 6-12.

On a close reading of Araki, it is revealed that Araki is not concerned with the problem of internal vibrations generated

in a disk player due to an eccentric center of gravity of a disk, which is the claimed invention of Appellants, but instead is concerned with the problem of balancing an abrupt unbalance of a rotational shaft during a high-speed rotation in rotary spray type metal powder manufacturing apparatus. See Araki, page 3, lines 25-26, and page 4, lines 1-2. In describing the problem Araki seeks to solve, Araki discloses that in the metal powder manufacturing apparatus, a part of a metallic piece cooled and fixed to the upper surface of a disc installed at the upper end of a perpendicular rotational shaft is dropped from the disc during the manufacture of the metal powder. The dropping of the metallic piece causes abrupt unbalance in the rotational shaft during a high-speed rotation, likely causing damage to the bearing supporting the rotational shaft and the rotor. See Araki, page 2, lines 13-19 and 4-6.

Thus, Araki is not concerned with the problem of dampening internal vibrations in a disc player generated by the rotation of the spindle motor due to an eccentric center of gravity of the disc. Araki does not solve problems caused when a disk with an eccentric center of gravity caused by a discrepancy between the rotational center of the disk and the center of gravity of the disk due to errors in the manufacturing process of the disk is

played. See Appellants Specification, page 2, lines 24-28, and page 3, lines 1-3.

Now we must consider the Examiner's argument that it would have been obvious to modify Araki and Appellants' admitted prior art to provide limitations claimed in claims 1 and 24. In this regard, the Federal Circuit states that

> [t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

As discussed above, Araki is not concerned with the problem that Appellants are solving. Araki is concerned with the problem of balancing an abrupt unbalance of a rotational shaft during a high-speed rotation in rotary spray type metal powder manufacturing apparatus. See Araki, page 3, lines 25-26, and page 4, lines 1-2. We find that even if Araki could be used to modify Appellants' admitted prior art (see Appellants' Figure 1) to add an automatic balancer to a disc player, there is no suggestion in Araki to do such a modification. In fact, although Araki relates to an automatic balancing device for a rotary body of a metal powder manufacturing apparatus, Araki does not teach a modification of a disk player to include an automatic balancing

device. The Examiner argues that "one looking to solve the problem of unbalanced disks that are rotated at high speeds in disk players would look to see how prior art high speed spindle motors are kept in balance." See Answer, page 5, lines 13-15. However, this amounts to nothing more than the Examiner using hindsight and is a statement of the very objective of the Appellants' invention.

Our reviewing court has held that the Examiner must explain the reasons why one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious. ***In re Lee,*** 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). The examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." ***In re Lee*** quoting ***In re Fritch***.

Since there is no evidence in the record that the prior art suggested the desirability of combining Araki's invention with Appellants' admitted prior art, we will not sustain the Examiner's rejection of claim 1. Dependent claim 24 on appeal

also contains the above limitations discussed in regard to claim 1 and thereby, we will not sustain the rejection as to these claims.

We have not sustained the rejection of claims 1 and 24 under 35 U.S.C. § 103. Accordingly, the Examiner's decision is reversed.

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)	
KENNETH W. HAIRSTON Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
MICHAEL R. FLEMING Administrative Patent Judge	)	

MRF/LBG

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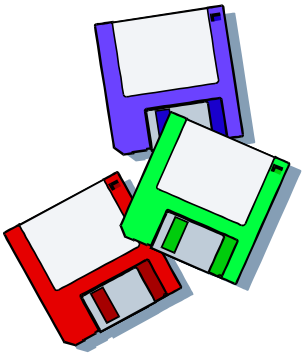

Lesley

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DECISION: REVERSED

Prepared: July 31, 2003

Draft Final

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PALM / ACTS 2 / BOOK

DISK (FOIA) / REPORT